

151. The assay plate of claim 148 further comprising a moisture proof covering for protecting said dried aliquot from moisture during the storage of said assay plate.

152. The assay plate of claim 148 further comprising a dried aliquot of a second known oligonucleotide, said dried aliquot of said second known oligonucleotide being at a different location on said substrate than said dried aliquot of said first known oligonucleotide, said second known oligonucleotide binding a second predetermined type of oligonucleotide in a solution.

153. A method for making an assay plate for detecting the presence of a mobile oligonucleotide that binds to an immobilized known oligonucleotide, said method comprising the steps of:

covalently binding said known oligonucleotide to a fused silica substrate to immobilize the known oligonucleotide;

washing said substrate to remove any of said known oligonucleotide that fails to bind to said substrate; and

drying said substrate and said bound immobilized oligonucleotide.

154. The method of claim 153 wherein said mobile and immobilized oligonucleotides comprise nucleic acids.

155. The method of claim 153 wherein said mobile oligonucleotide and said known oligonucleotide comprise a complementary pair.

156. The method of claim 153 further comprising the step of packaging said substrate in a moisture proof covering for protecting said immobilized oligonucleotide from moisture during the storage of said assay plate.

157. The method of claim 153 wherein the step of covalently binding the immobilized oligonucleotide to a fused silica substrate comprises:

coating the substrate with a solution of amino propyl triethoxy silane;
linking the oligonucleotide that is to be immobilized to a linker;

depositing the linked oligonucleotide to the coated substrate; and
incubating the substrate.

158. A method for detecting a mobile nucleic acid comprising the steps of:
providing an assay plate of fused silica having a dried aliquot of an immobilized
nucleic acid covalently bound thereon, said immobilized nucleic acid binding said mobile
nucleic acid when both said immobilized nucleic acid and said mobile nucleic acid are in a wet
state;

bringing a solution containing said mobile nucleic acid into contact with said
dried aliquot;

washing said assay plate;

treating with a dye that binds to one of said immobilized nucleic acid or said
mobile nucleic acid; and

determining the amount of mobile nucleic acid bound to said washed assay plate
by measuring the dye.

159. The method of claim 158 further comprising the step of drying said
washed assay plate prior to determining the amount of mobile nucleic acid bound to said washed
assay plate.

160. The method of claim 158 wherein the step of determining the amount of
mobile nucleic acid is performed without adding water to the dried assay plate.

161. The method of claim 158 wherein the step of treating with dye comprises
binding the dye to the mobile nucleic acid prior to bringing the solution into contact with the
dried aliquot.

162. The method of claim 158 wherein the step of treating with dye comprises
depositing the dye on the dried aliquot after bringing the solution into contact with the dried
aliquot.

163. A method for making an assay plate for detecting the presence of a mobile
oligonucleotide that binds to an immobilized known oligonucleotide, said method comprising the
steps of:

covalently binding said known oligonucleotide to a fused silica substrate to immobilize the known oligonucleotide;

washing said substrate to remove any of said known oligonucleotide that fails to bind to said substrate; and

drying said substrate and said bound immobilized oligonucleotide,

wherein the step of covalently binding the immobilized oligonucleotide to a fused silica substrate comprises:

coating the substrate with a solution of amino propyl triethoxy silane;

linking the oligonucleotide that is to be immobilized to a linker;

depositing the linked oligonucleotide to the coated substrate; and

incubating the substrate, and

wherein the step of coating the substrate comprises coating a surface of the substrate with a one percent solution of amino propyl triethoxy silane in ninety-five percent ethanol, and incubating at room temperature in a covered enclosure.

164. A method for making an assay plate for detecting the presence of a mobile oligonucleotide that binds to an immobilized known oligonucleotide said method comprising the steps of:

covalently binding said known oligonucleotide to a fused silica substrate to immobilize the known oligonucleotide;

washing said substrate to remove any of said known oligonucleotide that fails to bind to said substrate; and

drying said substrate and said bound immobilized oligonucleotide,

wherein the step of covalently binding the immobilized oligonucleotide to a fused silica substrate comprises:

coating the substrate with a solution of amino propyl triethoxy silane;

linking the oligonucleotide that is to be immobilized to a linker;

depositing the linked oligonucleotide to the coated substrate; and

incubating the substrate, and

wherein the linker comprises Bis succinimidyl suberate-homobifunctional NHS-ester.